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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Katsushi SAITO et al.
Serial No. : 09/903,361
Filed : July 11, 2001
Title : FLEXIBLE RESIN BOOT AND METHOD FOR PRODUCING IT
Group Art Unit : 1772
Examiner : Christopher P. Bruenjes

DECLARATION UNDER RULE 132

I, Hiroshi Ohno, do hereby declare and say:

My home address is 18-9, Yasaka, Kashiwai-cho, Owariasahi, Aichi, 488-0008, Japan.

My educational history is as follows:

Graduated from Department of Industrial Chemistry, Faculty of Engineering, Gifu University, Gifu, Japan, in 1988.

I have been employed in the field of the evaluation and analysis of automotive parts for 18 years in Toyo Tire & Rubber Co., Ltd.

I am one of the named inventors in the above captioned invention, and make this declaration in support of the patentability of the invention as claimed.

In the class of mineral oils, three types are generally commercially available on the market. These three types are categorized by the dominant proportion of constituent oil into the categories of paraffinic process oil, naphthenic process oil and aromatic process oil. Each category can comprise a

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mixture of the largest component for which it is named, with one or more of the other oils. Therefore, commercially available oils termed paraffinic process oil and naphthenic process can, and at times do, contain aromatic content in excess of 13%.

It has been discovered by the inventors of the above captioned application that limiting an aromatic content of the mineral oil used in preparing the boot in accordance with the invention to at most 13 % results in unexpectedly superior characteristics of the product. It has been found that it is even more preferable to use paraffinic process oil having an aromatic content of from 0 to 10 %. Especially in combination with TPEE, paraffinic process oil which is preferred has a paraffin content of from 60 to 78 %, a naphthene content of from 20 to 35 %, and an aromatic content of from 0 to 13 %, more

Adding mineral oil or vegetable oil, preferably process oil having an aromatic content of at most 13 %, to the thermoplastic polyester elastomer, brings about the following unexpected benefits. Use of oil having an aromatic content not exceeding 13% produces a boot in which the oil contained therein gradually bleeds in an ideal manner onto the surface of the thermoplastic elastomer resin, and the boot exhibits an unexpected and superior noise-preventing effect for a surprisingly long period of time as compared to conventional boots of similar configuration and use.

If the aromatic content of the process oil is larger than 13 %, it has been found by the inventors to be unfavorable since the process oil has been found to swell the thermoplastic elastomer resin, in particular, TPEE. It has been found particularly preferable when the mineral oil for use in the resin boot of the invention is at least one process oil selected from paraffinic oil and naphthenic oil whose aromatic content is in a range from about 0 to about 10 %.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; all statements made herein were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements and the like may jeopardize the validity of the above-captioned application, and any patent issuing thereon.

Signed: Hiroshi OhnoName: Hiroshi OHNO

Date: July 8, 2003

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